REMARKS

The applicants appreciate the Examiner's thorough examination of the application and request reexamination and reconsideration of the application in view of the following remarks.

As a preliminary matter, the applicants request that the Examiner acknowledge the references cited by the applicant on September 9, 2005, for which a return post card was date-stamped on September 12, 2005. A copy the applicants' September 9th correspondence and a copy of the date-stamped postcard are attached hereto.

Since these references were cited prior to the mailing date of the Office Action, these references were timely disclosed and no additional fee was or is required. See e.g. MPEP §609, 37 C.F.R. §1.97(b)(3). Nonetheless, if any additional fee is determined to be required, however, the applicants' filing letter of September 9, 2005 gave authority to charge any deficiency to Deposit Account No. 09-0002.

THE ALLOWANCE OF CLAIMS 44-75

The applicants acknowledge and appreciate the allowance of claims 44-75.

THE OBJECTION TO THE ABSTRACT

The Examiner objects to the Abstract because it contains more than 150 words. The applicants have amended the Abstract. Accordingly, the applicants request that the Examiner withdraw this objection.

THE OBJECTION TO THE DRAWINGS

The Examiner objects to the drawings, stating that as in claim 1 "the power regulating

circuit including a power management subsystem must be shown" (emphasis in original) or the feature cancelled from the claims.

Claim 1, however, does not recite that the power regulating circuit includes the recited power management subsystem. Claim 1 is for a flow meter comprising, *inter alia*: a loop power supply; a load; a power regulating circuit; and a power management subsystem. It is the power regulating circuit that includes, *inter alia*: a power converter; a safe storage device; and a control subsystem. As the punctuation and indentation of claim 1 makes clear, the power regulating circuit of claim 1 does not include the power management subsystem. See also for example Fig. 3, where power regulating circuit 70 does not include power management subsystem 64.

Accordingly, the applicants request that the Examiner withdraw the objection to the drawings because the power regulating circuit does not include the power management subsystem, and because each of these recited elements is included in the applicants' Figures.

THE OBJECTION TO CLAIMS 1-21

The Examiner objects to claim 1, stating that in claim 1 the power regulating circuit including a power management system is not shown in the drawings. The Examiner further states that claims 1-21 would be allowed if "the formal matters above are overcome".

The applicant has addressed the objection to the drawings. With respect the objection to claim 1, the applicant re-iterates that that the power regulating circuit does not include the power management subsystem recited in claim 1, and that these features are indeed shown in the Figures, as discussed above.

Accordingly, the applicants request that the Examiner withdraw the objection to claim 1, as well as the objections to claims 2-21 which depend directly or indirectly from claim 1.

THE REJECTIONS UNDER 35 U.S.C. §102(e)

The Examiner rejects independent claim 22 (and dependent claims 24, 32-33, 37, 39 and 40) under 35 U.S.C. 102(e) as being anticipated by U.S. Pat. App. No. 2005/0137812 to *Schaffer et al.*

Schaffer et al. does not disclose each and every element of the applicants' claim 22.

For example, *Schaffer et al.* does not disclose the applicants' claimed: 1) power regulating circuit between the loop power supply and the load; and 2) power management subsystem configured to detect the load voltage and to reduce the power consumption at at least one predetermined set point.

Schaffer et al. simply discloses power management system 17 which clamps available incoming power to the amount needed to generate and send a transducer's ultrasonic signal, and conserves the remaining energy by storing it storing means 21 and 23. The system 17 also makes power previously stored in storage means 21 and 23 available when incoming power is very low. Central unit 19 of system 17 is for active distribution of power. See e.g. *Schaffer et al.* paragraph 0052 lines 1-10; paragraph 0047 lines 9-11.

In sharp contrast to the applicants' flow meter of claim 22, system 17 does not include a power management subsystem *configured to detect the load voltage and to reduce the power consumption at at least one predetermined set point.*

Even assuming *arguendo,* as the Examiner states in pertinent part, that "there must be something [in *Schaffer et al.*] to detect the load voltage and some type of indication signal (warning) to warrant making the stored energy available to the power management system", there is a vast difference between *making stored energy available* -- as disclosed by system 17 of

Schaffer et al. -- and *reducing the power consumption* as the applicants' claimed power management subsystem does. In one example of the latter, if the load voltage is less than a first set point, a warning signal is sent and a power reduction instruction set is initiated to reduce power load consumption. See e.g. the applicants' specification at page 12, line 21 through page 13, line 3. In short, even if *Schaffer et al.* discloses a way to store excess power and supply it when needed, it does not disclose a way to reduce power consumption in the first instance. In short, *Schaffer et al.* does not disclose the applicants' claimed power management subsystem configured to detect the load voltage and to reduce the power consumption at at least one predetermined set point.

To further highlight the contrast between the applicants' claim 22 and the system 17 disclosed by *Schaffer et al.*, the applicants' claimed power regulating circuit stores power when not needed by the load and delivers power to the load when required, among other things -- see e.g. the applicants' specification at page 11, lines 2-15. The applicants' claimed power management subsystem is configured to detect the load voltage and to reduce the power consumption at at least one predetermined set point.

In other words, even if system 17 of *Schaffer et al.* performs some similar functions to the applicants claimed power regulating circuit i.e. storing power and delivering power, neither system 17 nor any other disclosed system of *Schaffer et al.* is configured to detect the load voltage and to reduce the power consumption at at least one predetermined set point.

For at least the foregoing reasons, *Schaffer et al.* does not anticipate the applicants' claim 22. Accordingly, claim 22 is in condition for allowance.

Claims 24, 32-33, 37, 39, and 40 depend directly or indirectly from claim 22, and thus are in condition for allowance for at least these same reasons.

THE REJECTIONS UNDER 35 U.S.C. §103(a)

The Examiner rejects claim 43 under 35 U.S.C. §103(a) as being unpatentable over *Schaffer et al.* in view of U.S. Pat. No. 6,928,369 to *Kishimoto et al.*

Claim 43 depends from independent claim 22 which, for the reasons above, is in condition for allowance. Accordingly, claim 43 is also in condition for allowance for at least the foregoing reasons.

THE PREVIOUSLY CITED REFERENCES

In addition, for consideration and acknowledgment by the Examiner, on September 9, 2005 the applicants previously submitted three (3) additional references for consideration, namely Japanese Patent Application *JP 2004-093371*; PCT Application *WO 00/70313*; and U.S. Pat. Pub. No. *2003/0014198* . These references were cited by the PCT Examiner in the International Search Report and Written Opinion for the corresponding PCT application.

JP 2004-093371 teaches an electromotive detecting part 8 that detects if the battery, i.e. the power source -- not the load -- decreases under a prescribed value. This is the opposite of the applicants' claim 22. With the applicants' claimed system, a very low power source -- up to 20 times less than some conventional flow meters -- is a given. See e.g. the applicants' specification at page 10, lines 1-3. In this way, the applicants' claimed flow meter may be used, i.e. in hazardous areas rather than having the power source within an enclosure or at a distance. See e.g. the applicants' specification at page 3, lines 15-17. Therefore, to detect whether the power supply decreases below a certain level -- as taught by *JP 2004-093371* -- would be a superfluous and useless endeavor. With the applicants' claimed invention it is not the power supply level that

is a concern and to which the system reacts. Instead, the power consumption of the load is reduced if necessary in accordance with the claimed predetermined set point in response to voltages in the load.

Similarly to *JP 2004-093371*, and also in sharp contrast to the applicants' claim 22, *WO 00/70313* teaches monitoring the power supply. In JP *2004-093371*, "power generation unit 24 is positioned in the gas flow path to produce electrical power from the gas flow through the meter". See e.g. *JP 2004-093371* page 4, lines 31-32. Upon sensing no gas consumption for example -- i.e. no ability to produce electrical power -- the unit is placed in a low or no power consumption mode. See e.g. *JP 2004-093371* page 5, lines 23-29. In contrast, as noted above, with the applicants' claimed invention it is not the power supply level that is a concern and to which the system reacts, but instead it is the power consumption of the load which is reduced if necessary, in accordance with the claimed predetermined set point in response to voltages in the load.

U.S. 2003/0014198 teaches a sampling method, not the elements of the applicants' claim 22.

Accordingly, neither *JP 2004-093371* nor *WO 00/70313* nor *U.S. 2003/0014198*, nor their combination, disclose or teach the elements of the applicants' claim 22.

Accordingly, none of these previously cited references disclose, teach or suggest the applicants' claimed invention.

Thus, the applicants' claimed invention is novel and non-obvious.

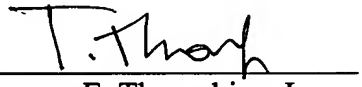
CONCLUSION

Each of the Examiner's rejections has been addressed or traversed. Accordingly, it is respectfully submitted that claims 1-43, as well as claims 44-75, are in condition for allowance.

Early and favorable action is respectfully requested.

If for any reason this Response is found to be incomplete, or if at any time it appears that a telephone conference with counsel would help advance prosecution, please telephone the undersigned or his associates, collect in Waltham, Massachusetts at (781) 890-5678.

Respectfully submitted,



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